Annual Action Plan Workshop

Action Plan 2023

To be presented in Annual Action Plan Workshop of KVKs of Gujarat & Goa on 15-16 May, 2023 at ICAR-DMAPR, Anand

Senior Scientist & Head
Krishi Vigyan Kendra
Junagadh Agricultural University
Gorkhijadia Morbi

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ICAR – ATARI, Pune

ANNUAL ACTION PLAN OF KVK – MORBI

(1st January, 2023 to 31st December, 2023)

1. GENERAL INFORMATION ABOUT THE KVK

Name and address of KVK with Phone, Fax and E-mail:

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
	Office	FAX		
Krishi Vigyan Kendra, Junagadh Agricultural University, Morbi Dist Morbi (Gujarat) – 363641	-	-	kvkmorbi@gmail.com	www.jau.in

1.2 Name and address of host organization with Phone, Fax and E-mail:

Address	Telephone		E mail	Website address
	Office	FAX		
Junagadh Agricultural University, Junagadh (Gujarat)	0285-2672080	0285-2672653	dee@jau.in	www.jau.in

1.3 Name of the Senior Scientist and Head with Phone, Mobile No.and E-mail :

Name	Telephone / Contact		
	Mobile	Office	E mail
Dr. L. L. Jivani	94269 72590	-	lljivani@gmail.com

1.4 Year of Sanction: 2017 (Grant & Staff from March-2017)

1.5 Faculty Information : (as on December 31, 2022)

No	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Please indicate		Date of joining	If Temporary, pl. indicate the consolidated amount paid (Rs./month)
				Current Pay Band	Current GradePay		
1.	Senior Scientist and Head	Dr. Lalji L. Jivani	Genetics & Plant Breeding	131400 - 217100	UL-13A	01/12/20	-
2.	Subject Matter Specialist	D. A. Saradava	Plant Protection	57700 - 182400	UL-10	01/03/17	-
3.	Subject Matter Specialist	Dr. K.N. Vadaria	Agronomy	57700 - 182400	UL-10	01/06/22	-
4.	Subject Matter Specialist	Vacant	-	-	-	-	-
5.	Subject Matter Specialist	Vacant					-
6.	Subject Matter Specialist	Vacant	-	-	-	-	-
7.	Subject Matter Specialist	Vacant	-	-	-	-	-
8.	Agriculture Officer	Gamansinh S. Zala	B.Sc. Agri.	Fix Pay	Fix Pay	03/08/18	-
9.	Programme Assistant	Vacant	-	-	-	-	-
10.	Computer Programmer	R. R. Sida	B.C.A.	39900-126600	L-7	07/03/19	-
11.	Farm Manager	Vinuji V. Thakor	B.Sc. Agri.	Fix Pay	Fix Pay	31/07/18	-
12.	Accountant / Superintendent	Vacant	-	-	-	-	-
13.	Stenographer	N.M. Vadhadiya	M.A. B.Ed.	25500-81100	L-4	01/03/22	-
14.	Driver 1	Vacant	-	-	-	-	-
15.	Driver 2	Vacant	-	-	-	-	-
16.	Supporting staff 1 & 2	Vacant	-	-	-	-	-

1.6 Total land with KVK (in ha): 26.2 ha. :

Sr. No.	Item	Area (ha)
1	Under Buildings and Road	2.0 ha
2.	Under DemonstrationUnits	1.8 ha
3.	Under Crops	8.0 ha
4.	Horticulture	Nil
5.	Others (Barren submerged under Machchhu-3 dam , Bund and Water drain)	14.4 ha
Total		**26.2 ha**

1.7 Infrastructural development:

A. Buildings:

No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	KVK	2019-20	575.32	143.00 Lacs	-	-	-
2.	Farmers Hostel	KVK	2019-20	443.96	61.00 Lacs	-	-	-
3.	Staff Quarters (6)	-	-	-	-	-	-	-
4.	Demonstration Units (1) Nadep Compost	SAU	2019-20	18.0	40000/-	-	-	-
5	Fencing	JAU	2017-18	4535	7,95,480/-	-	-	-
6	Rain Water harvesting system	-	2018-19	-	2,00,000/-	-	-	-
7	Threshing yard	JAU	2020-21	400	3,15,838/-	-	-	-
8	Farm godown	-	-	-	-	-	-	-
9	ICT lab	-	-	-	-	-	-	-
10	Roof Rain Water harvesting structure	SAU	2019-20	1.40 lac ltr.	4.6 Lacs	-	-	-

B. Vehicles:

Type of vehicle	Year of purchase	Cost (Rs.)	Present status
Tractor Massey DI-241	2017	607137/-	Working
Tractor Mini Trishul 10 H.P.	2007	183000/-	Working
Mahindra Bolero	2019	800000/-	Working

C. Equipments & AV aids:

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Computer System Acer 18.5	2017	34115/-	Working
Computer System Acer 18.5	2017	34115/-	Working
Printer MF 3010 canon	2017	10266/-	Working
Printer LBP 6230 canon	2017	8761/-	Working
Computer System SIS Agiledag-2277 LG	2010	24210/-	Right off
Computer System Intel core i3 processor HCL		34569/-	Working
Printer MF 4350d canon		14327/-	Working
Xerox Machine RICHO Digital	2013	113755/-	Working

1.8. Details of SAC meetings conducted :

Sl.No.	Particulars	Proposed date of meeting
1	Scientific Advisory Committee – Meeting 1	26/03/2018
2	Scientific Advisory Committee – Meeting 2	19/03/2019
3	Scientific Advisory Committee – Meeting 3	12/03/2020
4	Scientific Advisory Committee – Meeting 4	10/02/2021
5	Scientific Advisory Committee – Meeting 5	10/03/2022
6	Scientific Advisory Committee – Meeting 6	09/02/2023

2. DETAILS OF JURISDICTION AREA UNDER KVK (No. of talukas)

2.1 Major farming systems/enterprises (Based on the analysis made by the KVK)

S. No	Farming System/Enterprise
1	Cotton-Wheat/Cotton-Cumin/Groundnut-Wheat/Groundnut-Cumin/Cotton-Summer Sesame
2	Animal husbandry – Crop based enterprise /Dairy product
3	Farm Waste Management/ Crop residue management
4	Value addition in Groundnut/ Sesame

2.2 Description of Agro-climatic Zone & major agro ecological situations:

A. Climate:

No.	Agro-climatic Zone	Characteristics
1	North Saurashtra Agro Climatic Zone , Morbi,Wankaner and Tankara (Agro – eco-situation –No.7)	Semi arid – region with annual rainfall 550 - 600 mm. Maximum temp – 44˚C, Minimum range – 5 to 12˚C & high evaporation
2	North west agro climatic Zone- 5 Maliya (mi) and Halvad block	Arid to semi arid region with annual rain fall – 500 to 550 mm Maximum temp - 45˚C, Minimum range – 3 to 12˚C & high evaporation

B. Topography:

No.	Agro ecological situation	Characteristics
1	Situation No. 7	Plain & hilly areas in Wankaner Tehsil.
2	Situation No. 5	Plain costal region (saline) affected with desertification

2.3. Soil Types

S. No	Soil type	Characteristics	Area in ha
1	Medium black clayey	Low in organic carbon, heavy cracking and clod formation	202.4
2	Alluvial Soil (sand-loam lomy)	Low fertility status, high infiltration rate	91.8
3	Hilly Soil (light)	Undulating topography, low fertility eroded soil	13.6
4	Silty Soil (loomy)	Low infiltration rate, water logging, difficult to cultivate	5.5

2.4. Area, Production and Productivity of major crops cultivated in the district (2021-22)

S. No	Crop	Area (ha)	Production (M. T.)	Productivity (kg/ha)
1	Groundnut	65215	144942	2223
2	Cotton (Bt)	134551	232705	1729
3	Sesame	2132	1066.23	500
4	Castor	13850	36664	2647
5	Green gram	1663	827.28	497
6	Black gram	1900	1227.8	646
7	Vegetable	3140	77980.7	24835
8	Fodder	23868	574189	24057
9	Wheat	34294	102998	3003
10	Chickpea	39644	65222	1645

Authentic Source (State / Central Govt.): **State**

2.5. Weather data (2022)

Month	Rainfall (mm)	Month	Rainfall (mm)
January	0	July	459.5
February	0	August	242.8
March	0	September	84
April	0	October	0
May	0	November	0
June	13	December	0
		Total	**799.3**

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (Ref. Year 2021-22)

Category	Population	Production	Productivity
Cattle			
Crossbred	140476	-	12 lit/Day
Indigenous			
Buffalo	173285	-	17 lit/Day
Sheep	93747	-	-
Goats	65880	-	-
Pigs			
Crossbred	-	-	-
Indigenous	-	-	-
Rabbits	79	-	-
Poultry			
Hens	1000000		3 kg/Bird
Desi			
Category		Production (Q.)	Productivity
Fish (Reservoir)	-	-	-

2.7. Priority thrust areas:

Crop/Enterprise	Thrust area
Groundnut, Sesame etc	Increasing the productivity of the major crops by adopting recommendation of dry farming technologies and to create awareness for value addition.
Water conservation	*In situ* soil moisture conservation and rainwater harvesting. Use of cotton stalk for organic manure.
Cotton	Motivating cotton growers to adopt IPM and INM practices for reducing the cost of production.
Women empowerment	Providing self employment through skill oriented income generating activities
Agriculture	Developing interest among youth for agriculture as a profession.
Horticulture	Value addition in agriculture produces through proper grading, processing, marketing and information technology.
Income generating activities	Self employment among rural youth and skill oriented income generating activities.
Nutrition management	Care and importance of nutrition in children & pregnant women.
Spices crop	Adopt recommended practice of IDM in spices crop i.e. cumin &ajwain.

2.8. Details of operational area / villages:

Village	Land(ha)			Population		Animal				Major Crop			Major Problems
	Unirrigate	Irrigated	Total	Male	Female	Cow	Buffalo	Ship	Goat	Name	Area(ha)	Productivity	
Palas (Wankaner)	228	75	347	413	315	700	750	180	280	Groundnut	125	1300-1500	- Low productivity of almost all crop than dist. aveg. -Stem rot & White grub in groundnut. -Pink ball in cotton.
										Cotton	125	1400-1600	
										Sesame	20	600-700	
										Wheat	30	3300-3500	
										Cumin	20	600-700	
Panchasia (Wankaner)	426	1000	1426	720	680	300	1700	600	190	Groundnut	625	1800-2000	-Low productivity of almost all crop than dist. aveg. -Stem rot & White grub in groundnut. -Pink ball in cotton.
										Cotton	600	1500-1700	
										Sesame	175	800-900	
										Wheat	400	3800-4000	
										Cumin	150	800-900	
										Chickpea	300	2000-2200	
										Garlic+Onion	150	7000-7500	
										Othesr	25	3500-4000	
Shekhradi (Wankaner)	237	152	389	504	482	259	483	-	10	Groundnut	50	1800-2000	-Low productivity of all crop due light soil. -Stem rot in groundnut. -Pink ball warm in cotton. -Phytopthora blight in cumin
										Cotton	200	1700-1900	
										Sesame	50	600-700	
										Fodder	89	700-800	

Amarsar (Wankaner)	314	258	576	891	870	120	490	300	200	Groundnut	200	1900-2200	-Stem root in groundnut. -Pink ball warm in cotton. -Blight and wilt in cumin. -Soft rot in onion. -Tip burning in garlic. -Phytopthora blight in sesame. -Para wilt in cotton.
										Cotton	300	1500-1700	
										Cumin	100	900-1000	
										Onion	100	3000-3300	
										Wheat	50	3600-3800	
										Others	76	-	
Pipaliyaraj (Wankaner)	1300	681	1981	2075	2043	200	2250	250	150	Groundnut	600	1900-2200	-Stem rot in groundnut. -Pink ball warm in cotton. -Blight and wilt in cumin. -Soft root in onion. -Tip burning in garlic. -Phytopthora blight in sesame. -Para wilt in cotton.
										Cotton	1200	2000-2200	
										Sesame	50	800-900	
										Wheat	100	3200-3300	
										Cumin	100	800-900	
										Chickpea	250	1800-2200	
										Garlic+Onion	50	3800-4000	
										Castor	50	2500-3000	

Otala (Tankara)	560	720	1280	1663	1587	35	70	550	271	Groundnut	600	2400-2500	-Stem rot in groundnut. -Pink ball warm in cotton. -Blight and wilt in cumin. -Tip burning in garlic. -Phytopthora blight in sesame. -Para wilt in cotton.
										Cotton	580	2200-2500	
										Sesame	80	800-1000	
										Wheat	150	4500-5000	
										Cumin	250	800-1000	
										Chickpea	150	2800-3000	
										Garlic	50	7000-7200	
Saraya (Tankara)	350	416	766	728	725	290	117	1200	230	Groundnut	440	2300-2500	-Stem rot in groundnut. -Pink ball warm in cotton. -Blight and wilt in cumin. -Phytopthora blight in sesame. -Para wilt in cotton.
										Cotton	300	2400-2600	
										Sesame	10	800-1000	
										Wheat	100	4800-5000	
										Cumin	100	700-800	
										Chickpea	200	2400-2500	
										Others	15	-	
Neknam (Tankara)	700	176	2461	1801	1735	337	620	670	160	Groundnut	1300	1800-2200	-Stem rot in groundnut. -Pink ball warm in cotton. -Blight and wilt in cumin. -Soft root in onion. -Tip burning in garlic. -Phytopthora blight in sesame. -Para wilt in cotton.
										Cotton	1110	2000-2200	
										Wheat	100	4000-4200	
										Chickpea	200	2800-3000	
										Cumin	75	700-800	
										Sesame	50	800-900	
										Garlic-Onion	75	-	

Lakhdhirgadh (Tankara)	576	20	596	536	518	188	243	-	-	Groundnut	180	2400-2500	-Stem rot & white grub problem in groundnut. -Pink ball worm problem in cotton. -Phytopthora blight in sesame. -Wilt & blight in cumin. -Soft root in onion.
										Cotton	180	2100-2200	
										Sesame	150	900-1000	
										Pulses	90	800-900	
										Wheat	160	4000-4200	
										Chickpea	150	3000-3200	
										Cumin	60	700-900	
										Others	20	-	
Bhutkotda (Tankara)	533	350	883	882	823	200	100	700	300	Groundnut	450	2500-2700	-Wilt and stunt disease in chickpea.
										Cotton	350	2000-2200	
										Sesame	50	800-1000	
										Garlic+Onion	25	3500	
										Wheat	100	6000-7000	
										Chickpea	150	800-900	
										Cumin	50	3800-4200	
										Others	30	2500-2800	

Chakamapar (Morbi)	425	1207		1001	1207	233	346	720	207	Groundnut	502	1800-2000	-Pink ball warm in cotton. -White grub in groundnut. -Wilt & blight in cumin. -FMP
										Cotton	270	1700-2000	
										Cumin	200	750	
										Chickpea	100	2250	
										Wheat	225	4100	
Jivapar (Morbi)	310	1040		1021	956	109	256	196	55	Groundnut	780	1800-2000	-Pink ball warm in cotton. -White grub in groundnut. -Wilt & blight in cumin. -FMP
										Cotton	350	1800-2000	
										Cumin	75	850	
										Chickpea	100	2200-2400	
										Wheat	200	3800-4200	
										Sesame	60	1200	
										Garlic	50	-	
Dharampur (Morbi)	12	870		797	779	200	365	371	112	Cotton	260	1800-2000	-Pink ball warm in cotton. -Wilt & blight in cumin. -FMP - Salinity problem of soil
										Wheat	30	3000-3500	
										Cumin	25	600-700	
										Sesame(summer)	25	800-000	

Thorala (Morbi)	388	434		852	785	110	398	150	35	Groundnut	260	1250	-Low yield of groundnut due to salinity problem. -Pink ball warm in cotton. -Phytophora blight in sesame. -FMP in
										Cotton	245	1670	
										Cumin	60	780	
										Chickpea	70	2200	
										Sesame	50	700	
Andarana (Morbi)	1322	1780		1220	1180	100	300	200	400	Groundnut	500	1500-1600	-Pink ball warm in cotton. -White grub in groundnut. -Wilt & blight in cumin. -FMP
										Cotton	450	1700-2000	
										Sesame	250	700-800	
										Wheat	200	4000-4200	
										Chickpea	200	1800-2000	
										Garlic	60	7000-7200	
										Onion		35000-40000	

3. TECHNICAL PROGRAMME

3.1. A. Details of targeted mandatory activities by KVK

OFT		FLD	
(1)		(2)	
Number of OFTs	**Number of Farmers**	**Area (ha)**	**Number of Farmers**
3	9	30.00	75

Training		Extension Activities	
(3)		(4)	
Number of Courses	**Number of Participants**	**Number of activities**	**Number of participants**
47	1205	16	56

Seed Production (Qtl.)			Planting material (Nos.)	Fish seed Prod. (No's)	Soil Samples
(5)			(6)	(7)	(8)
Crop		**Quantity(qtls.)**	100	-	100
Sesame	GT-6	07			
Black gram	GU-2	08			
Plantation	Fruit crops	First year			
Cumin	GC-4	12			
Onion	GJWO-3	01			

3.1. B. Operational areas details proposed during 2023

No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (Ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Proposed Intervention (OFT, FLD, Training, extension activity etc.)*
1	Bt. cotton	Sucking Pest, Para Wilt, Pink Boll Worm	1,12,000 ha	Halvad, Tankara, Wakaner, Morbi block	FLD on pink boll worm management. Training on pink boll worm management
2	Groundnut	White Grub Stem Root	42,000 ha	Tankara , Halvad block	OFT on White grub management in groundnut. Training on pest and Disease management in groundnut.
3.	Cumin	Wilt and Blight	3900 ha	Morbi, Halvad, Maliya	FLD and OFT on Wilt management and also training for IDM in Cumin.
4	Pomegranate	Seed rot and nematode	1000 ha	Morbi, Halvad and Maliya	Training programmed and crop seminar
5	Chickpea	Wilt and Blight	2600	Morbi, Halvad and Maliya	Training programmed and crop seminar

* Support with problem-cause and interventions diagram

3.2. Technologies to be assessed and refined

A.1. Abstract on the number of technologies to be assessed in respect of crops

Thematic areas	Cereals	Oil Seeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation Crops	Tuber Crops	TOTAL
Integrated Pest Management	-	1	-	-	-	-	-	-	-	**1**
Assessment of New Variety	-	1	-	-	-	-	-	-	-	**1**
Disease Management	-	-	-	1	-	-	-	-	-	**1**
TOTAL	**-**	**2**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**3**

A.2. Abstract on the number of technologies to be assessed in respect of livestock / enterprises :- **Nil**

B. Details of On Farm Trials/ Technology Assessment proposed during 2023

No.	Crop/ enterprise	Prioritized problem	Title of OFT	Technology options	Source of Technology	Name of critical input	Qty per trial	Cost per trial (Rs)	No. of trials	Total cost for the intervention (Rs.)	Para-meters to be studied	Team member
1	Groundnut	Low yield due to infestation of white grub	Management of white grub in groundnut	Sowing of groundnut without seed treatment. (Farmers Practice)	JAU	Imidacloprid 600 F.S.	100 ml	2000/-	3	6000/-	1) Yield 2) No. of infested plant in 1 sq.mt. area at 75 days after sowing , BC Ratio	Shri D.A. Saradava & Dr. L. L. Jivani
				Seed treatment with imidacloprid 600 F.S. 4 ml/kg seed. (JAU Reco.2020)		*Metarhizium anisoplii*	2 kg					
				Soil application of *metarhizium anisoplii* @ 5 kg/ha with 300 kg/ha castor cake at the time of sowing (JAU Reco.)		Castor cake	50 kg					
2	Sesame	Low yield of sesame in summer	Assessment of new variety of sesame	G Til – 2 or Local (Farmer Practice).	JAU	Sesame Seed G Til – 2, G Til-3 & G Til-5	2 Kg	300/-	3	900/-	1) Yield 2) No. capsules/plant 3)Branches/ plant 4) B:C Ratio	Dr. L. L. Jivani
				G Til – 3 (JAU Recommendation for summer)								
				GJT–5 (JAU Recommendation for summer)								
3	Cumin	Fifteen to twenty percent yield reduction due to blight disease	Minimize the disease intensity through line sowing in cumin crop	Sowing of cumin with broad casting method (Farmer practice)	JAU	Seed of cumin GC-4	6 kg	1200/-	3	3600/-	1) Yield 2) Percentage of incidence of blight disease in 1 sq.mt. area at 75 days after sowing and BC ratio	Dr. K.N. Vadaria, Shri D. A. Saradva & Dr. L. L. Jivani
				Sowing of cumin at 30 cm distance between two raws (Recommended practices.)								
				Sowing of cumin at 15 cm distance between two rows (Intervention).								

3.3. Front Line Demonstrations

A. Details of FLDs to be organized (Oilseeeds, pulses, cereals, cotton, commercial crops, horticulture crops, vegetables, spices and condiments, fodder crops, etc)

No	Crop	Variety	Thematic Area	Technology For Demonstration	Critical Inputs With Cost (Rs.)	Season and Year	Area (Ha)	No. Of Farmers/ Demon.	Parameters Identified
1	Groundnut	-	INM	Seed treatment of *Rhizobium Leguminosarum* Isolated-1 a 10 ml/kg seed	4800/-	*Kharif*-2023	4.0	10	Yield, B:C Ratio, Farmers Perception
2	Cotton	Bt. cotton	IPM	Integrated management of Pink boll worm in cotton spraying of *Beauveriabassian* and Installation of pheromone traps	12000/	*Kharif*-2023	4.0	10	Yield, B:C Ratio, Farmers Perception
3	Black gram	GU-2	New Variety	New variety of black gram GU-2	6000/-	Kharif-2023	4.0	10	Yield, B:C Ratio, Farmers Perception
4	Chickpea	GG–5 /GJG-3	INM	Seed treatment of *Rhizobium* Leguminosarum Isolated-1 a 10 ml/kg seed	22500/-	Rabi-2023-24	4.0	10	Yield, B:C Ratio, Farmers Perception
5	Cumin	GC–5	New Variety	New variety of cumin GC - 5	15000/-	Rabi-2023-24	2.0	5	Yield & B:C Ratio , Farmers Perception
6	Pearl Millet	GHB-1129	New Hydrid/ Variety	New Bio fortified hybrid of Pearl millet	2000/	Summer-2023	2.0	5	Yield, B:C Ratio, Farmers Perception
7	Sesame	GT-6	New Variety	New variety of sesame GT-6	3000/-	Summer-2023	4.0	10	Yield, B:C Ratio, Farmers Perception
Total					**65300/-**		**24**	**60**	

Demonstrations (CFLDs on O & P / Others) –

S. No.	Crop	Variety	Season and Year	Area (ha)	No. of farmers
1	Tomato	GT-6	*Rabi*-2023-24	4.0	10
2	Garlic	GJG-5	*Rabi*-2023-24	0.8	2
3	Coriander	GCr-3	*Rabi*-2023-24	1.2	3
Total				**6.0**	**15**

B. Extension and Training activities under FLDs

S. No.	Activity	No. of activities	Month	Number of participants
1	Field days	2	Aug. and Dec.	50
2	Farmers Training	2	Sep. and Oct.	55
3	Media coverage	1	Sep.	-
4	Training for extension functionaries(ATMA-Morbi)	1	Jul.	35

C. Details of FLD on Enterprises

a. Farm Implements :- **Nil**

b. Livestock and Fisheries Enterprises :- **Nil**

c. Other Enterprises (Mushroom, Apiculture, Sericulture, Vermi-compost, Value Addition, Women empowerment, etc) :- **Nil**

3.4 Training (Including the sponsor and FLD training programmes)

A. On Campus

Title Of The Training Programme	Duration In Days	No. Of Participants			Number Of SC/ST			Grand Total
		M	F	T	M	F	T	
(A) Farmers & Farm Women								
I Crop Production								
Production and processing of pearl millet	1	22	00	22	03	00	03	**25**
Importance and use of bio fertiliser	1	22	00	22	03	00	03	**25**
Importance and criteria for natural farming	1	22	00	22	03	00	03	**25**
Production technology of different millet crops.	1	22	00	22	03	00	03	**25**
Integrated nutrient management in *kharif* crops	1	22	00	22	03	00	03	**25**
Preparation of *Jivamrut* and its role in crop production	1	22	00	22	03	00	03	**25**
II Horticulture								
Seed production technology in vegetable crops	1	20	04	24	00	01	01	**25**
Raising of vegetable nursery	1	20	04	24	00	01	01	**25**
III Soil Health								
Importance of soil analysis.	1	22	00	22	03	00	30	**25**
IV Live Stock Production : Nil								
V Home Science :								
Preparation of dishes from différent millets.	1	20	04	24	00	01	01	**25**
VI Plant Protection								
Insect pest & disease management in *rabi* crops.	1	22	00	22	03	00	03	**25**
Insect pest management in natural farming	1	22	00	22	03	00	03	**25**
Seed treatment for pest and disease management in *kharif* crops.	1	22	00	22	03	00	03	**25**
Practical on preparration of different component of Natural farming *viz*;Bramastra,Agniastra and Nimastra for insect management .	1	22	00	22	03	00	03	**25**
Pest & disease Management in *kharif* crops.	1	22	00	22	03	00	03	**25**
VII Agri. Engineering : Nil								
VIII Fisheries – Nil								
Total (A)	**15**	**324**	**12**	**336**	**36**	**3**	**66**	**375**
(B) RURAL YOUTH: Nil								
(C) EXTENSION PERSONNEL								
Integrated pest management in *kharif* crop	1	34	03	37	03	00	03	**40**
New recommendation and package of practice of *rabi* crops	1	34	03	37	03	00	03	**40**

Total (C)	**2**	**68**	**6**	**74**	**6**	**0**	**6**	**80**
Grand Total (A+B+C)	**17**	**392**	**18**	**410**	**42**	**3**	**72**	**455**

B. Off Campus

Title Of The Training Programme	Duration In Days	Number Of Participants			Number Of SC/ST			Grand Total
		M	F	T	M	F	T	
(A) Farmers & Farm Women								
I Crop Production								
Importance and criteria for natural farming	1	22	01	23	02	00	02	**25**
Benefits of *jivamrut* and *ghanjivamrut*	1	22	00	22	03	00	03	**25**
Integrated nutrient management in *kharif* crops	1	21	01	22	03	00	03	**25**
Preparation of Jivamrut and bijamrut	1	21	01	22	03	00	03	**25**
Integrated nutrient management in *rabi* crops	1	21	01	22	03	00	03	**25**
Weed management in *rabi* crops	1	21	01	22	03	00	03	**25**
Irrigation management in *rabi* crops	1	21	01	22	03	00	03	**25**
II Horticulture								
Raising of vegetable nursery	1	00	23	23	00	02	02	**25**
Scientific cultivation of spices crops.	1	21	2	22	02	01	03	**25**
III Soil Health								
Importance of soil analysis.	1	21	01	22	03	00	03	**25**
Importance of soil health card and soil & water testing	1	22	1	23	2	00	2	**25**
Information regarding Bio-fertilizer application in different crops.	1	22	00	22	03	00	03	**25**
Plant nutrients and its management	1	22	00	22	03	00	03	**25**
Role of different macro and micro nutrients	1	22	00	22	03	00	03	**25**
IV Agri. Engineering: Nil								
V Home Science : Nil								
VI Plan Protection								
Insect pest & disease management in *rabi* crops.	1	22	02	24	01	00	01	**25**
Store grain pest and their management and precautions	1	21	00	21	04	00	04	**25**
Seed treatment for pest management in *kharif* crops.	1	23	00	23	02	00	02	**25**
Integrated pest & disease management in *kharif* crops.	1	20	03	23	02	00	02	**25**
Pest and disease management through different components of Natural farming e.g. Agniastra & Nimastra.	1	22	01	23	02	00	02	**25**
Insect pest management in natural farming	1	22	00	22	03	00	03	**25**
Role of predators and parasites in pest management.	1	22	00	22	03	00	03	**25**

Integrated insect-pest & disease management in horticultural crops	1	25	00	25	00	00	00	**25**
Pest & disease management in vegetable and horticulture crops	1	23	00	23	02	00	02	**25**
Total (A)	**23**	**479**	**39**	**517**	**55**	**3**	**58**	**575**
(B) RURAL YOUTH: Nil								
(C) EXTENSION PERSONNEL: Nil								
Grand Total (A+B+C)	**23**	**479**	**39**	**517**	**55**	**3**	**58**	**575**

C. Consolidated table (On and Off Campus)

Thematic Area	No. of Courses	No. of Participants						
		Others			SC/ST			Grand Total
		M	F	T	M	F	T	
(A) Farmers & Farm Women								
I Crop Production								
Production and processing of pearl millet	1	22	0	22	3	0	3	**25**
Benefits of *jivamrut* and *ghanjivamrut*	1	22	0	22	3	0	3	**25**
Importance and use of bio fertilisers	1	22	0	22	3	0	3	**25**
Importance and criteria for natural farming	2	44	2	46	8	0	8	**54**
Production technology of different millet crops.	1	22	0	22	3	0	3	**25**
Integrated nutrient management in *kharif* crops	2	43	1	44	6	0	6	**50**
Integrated nutrient management in *rabi* crops	1	21	1	22	3	0	3	**25**
Weed management in *rabi* crops	1	21	1	22	3	0	3	**25**
Preparation of *Jivamrut* and its role in crop production	1	22	0	22	3	0	3	**25**
Irrigation management in *rabi* crops	1	21	1	22	3	0	3	**25**
Preparation of Jivamrut and bijamrut	1	21	1	21	-	-	-	**21**
II Horticulture								
a) Vegetable Crops								
Seed production technology in vegetable crops	1	20	4	24	0	1	1	**25**
Raising of vegetable nursery	2	20	27	47	0	3	3	**50**
Scientific cultivation of spices crops.	1	21	2	22	2	1	3	**25**
III Soil Health and Fertility Management								
Importance of soil analysis.	2	43	1	44	6	0	33	**50**
Importance of soil health card and soil & water testing	1	22	1	23	2	0	2	**25**
Information regarding Bio-fertilizer application in different crops.	1	22	0	22	3	0	3	**25**
Plant nutrients and its management	1	22	0	22	3	0	3	**25**
Role of different macro and micro nutrient	1	22	0	22	3	0	3	**25**

V Home Science/Women empowerment								
Preparation of dishes from différent millets.	1	20	4	24	0	1	1	**25**
VII Plant Protection								
Insect pest & disease management in *rabi* crops.	2	44	2	46	4	0	4	**50**
Store grain pest and their management and precautions	1	21	0	21	4	0	4	**25**
Insect pest management in natural farming	2	44	0	44	6	0	6	**50**
Integrated pest & disease management in *kharif* crops.	1	20	3	23	2	0	2	**25**
Seed treatment for pest and disease management in *kharif* crops.	2	45	0	45	5	0	5	**50**
Pest and disease management through different component of Natural farming e.g. Agniastra & Nimastra.	1	22	1	23	2	0	2	**25**
Plant protection measures in natural farming	1	22	0	22	3	0	3	**25**
Role of predator and parasite in pest management.	1	22	0	22	3	0	3	**25**
Pest & disease Management in *kharif* crops.	1	22	0	22	3	0	3	**25**
Integrated insect-pest & disease management in horticultural crops	1	25	0	25	0	0	0	**25**
Pest & disease management in vegetable and horticulture crops	1	23	0	23	2	0	2	**25**
TOTAL (A)	**38**	**803**	**51**	**854**	**91**	**6**	**97**	**951**
(B) RURAL YOUTH: Nil								
(C) EXTENSION PERSONNEL								
Integrated pest management in *kharif* crop	1	34	3	37	3	0	3	**40**
New recommendation and package of practice of rabi crops	1	34	3	37	3	0	3	**40**
TOTAL (C)	**2**	**68**	**6**	**74**	**6**	**0**	**6**	**80**
GRAND TOTAL (A+B+C)	**40**	**871**	**57**	**927**	**97**	**6**	**103**	**1031**

Details of training programmes attached in Annexure -I

3.5. Extension Activities (including activities of FLD programmes)

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		M	F	T	M	F	T	M	F	T
Field Day	02	42	6	48	2	-	02	**48**	**2**	**50**
KisanMela	01	500	100	600	30	03	33	**530**	**103**	**633**
Kisan Goshti	10	55	45	100	11	08	19	**66**	**53**	**119**
Exhibition	01	110	45	155	20	20	40	**130**	**65**	**195**
Film Show	-	-	-	-	-	-	-	-	-	-
Farmers Seminar	-	-	-	-	-	-	-	-	-	-
Workshop	-	-	-	-	-	-	-	-	-	-
Group meetings	02	42	6	48	2	-	02	**48**	**2**	**50**
Lectures delivered as resource persons	-	-	-	-	-	-	-	-	-	-
Newspaper coverage	As and when required									
Radio talks	As and when required									
TV talks	As and when required									
Popular articles	05	-	-	-	-	-	-	-	-	-
Extension Literatures	05	-	-	-	-	-	-	-	-	-
Advisory Services	As and when required									
Scientific visit to farmers field	10	-	-	-	-	-	-	-	-	-
Farmers visit to KVK	07	-	-	-	-	-	-	-	-	-
Diagnostic visits	04	-	-	-	-	-	-	-	-	-
Exposure visits	-	-	-	-	-	-	-	-	-	-
Ex-trainees Sammelan	-	-	-	-	-	-	-	-	-	-
Soil health Camp	-	-	-	-	-	-	-	-	-	-
Animal Health Camp	-	-	-	-	-	-	-	-	-	-
Agri mobile clinic	-	-	-	-	-	-	-	-	-	-
Soil test campaigns	01	-	-	-	-	-	-	-	-	-
Farm Science Club Conveners meet	-	-	-	-	-	-	-	-	-	-
Self Help Group Conveners meetings	-	-	-	-	-	-	-	-	-	-
MahilaMandals Conveners meetings	-	-	-	-	-	-	-	-	-	-
Celebration of important days (specify)	07	77	23	100	50	20	70	**127**	**43**	**170**
KrishiMohostava	-	-	-	-	-	-	-	-	-	-
KrishiRath	-	-	-	-	-	-	-	-	-	-
Pre Kharif Workshop	-	-	-	-	-	-	-	-	-	-
Pre Rabi Workshop	-	-	-	-	-	-	-	-	-	-
PPVFRA Workshop	-	-	-	-	-	-	-	-	-	-
Any Other (Specify)	-	-	-	-	-	-	-	-	-	-
Total	**55**	**826**	**225**	**1051**	**115**	**51**	**166**	**949**	**268**	**1217**

3.6. Target for Production and supply of Technological products

SEED MATERIALS

Sl. No.	Crop	Variety	Quantity (qtl.)
OILSEEDS	Groundnut	GJG-32	20
PULSES	Black gram	GU-2	08
	Chickpea	GG-5	10
	Pigeon Pea	GJP-1	10
OTHERS (Specify)	Cumin	GC-4	12
	Garlic	GJG-5	40
	Onion	GJWO-3	01

PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)
FRUITS	Jambu	Ravni	50
VEGETABLES	Drum Stick	Jyoti	50

BIO-PRODUCTS (Sales Only): Nil

LIVESTOCK :- Nil

VALUE ADDED PRODUCTS :- Nil

3.7. Action plan for management of KVK instructional farm

Total land with KVK : **26.2 ha**

Cultivable land : **9.8 ha** (Irrigated : **7.8 ha**, Rain fed : **2.0 ha**)

Micro-irrigation facility available at KVK : Yes / No. :- **Yes**

4. LITERATURE TO BE DEVELOPED/PUBLISHED

A. Literature developed/published

S.No.	Topic	Number
1	Research papers	01
2	Technical reports	06
3	News letters	04
4	Training manuals	01
5	Popular articles	05
6	Extension literature	05
7	E-publication	-
8	Any other (Please specify)	-
	Total	**22**

B. Details of Electronic Media to be produced:- Nil

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette) and video clippings	Title of the programme	Number
1	-	-	-

C. Details of social media platforms to be started / continued :- Continued

S. No.	Type of social media platform	Title / Purpose	Number
1	YouTube Channel	JAU , Junagadh	1
2	Face book page	JAU , Junagadh	1
3	Mobile Apps	JAU ikrushi Sanhita	-
4	Whats App groups	Information about new technology	8
5	Twitter Account	KVK MORBI , JAU – GUJARAT	1
6	Any other (Pl. Specify)	INSTAGRAM - kvkmorbi	1

D. Success stories/Case studies identified for development as a case (Based on previous years success)

S. No.	Title of success story / case study identified	Proposed month for case/story to be prepared/ developed
1	Natural farming	April
2	Value addition	November

5.1 Indicate the Specific Training need Analysis Tools/Methodology followed for

A. Practicing Farmers - Nil
B. Rural Youth - Nil
C. In-service personnel - Nil

5.2. Indicate the Methodology for Identifying OFTs/FLDs

For OFT:

i) Field level observations
ii) Farmer group discussions

For FLD:

i) New variety/technology
ii) Existing cropping system
iii) Problems at field level

5.3. Field Activities

i. Name of villages identified/adopted with block name (from which year) -2022

Block	Villages
Wankaner	Palas
	Panchasia
	Shekharadi
	Amarsar
	Pipaliya raj
Tankara	Otala
	Saraya
	Neknam
	Lakhdhirgadh
	Bhutkotda
Morbi	Chakampar
	Jivapar
	Dharampur
	Thorala
	Andarana

ii. No. of farm families selected per village : 10
iii. No. of survey/PRA conducted : One / Village
iv. No. of technologies taken to the adopted villages: 15
v. Name of the technologies found suitable by the farmers of the adopted villages:
1) White grub management in groundnut (IPM).
2) Sucking pest management in cumin.
3) Pink ball warm management in cotton (IPM).
4) Para wilt management in cotton.
vi. Impact (production, income, employment, area/technological– horizontal/vertical)
To increase the production and productivity.
To increase farm income per area.
To reduce the cost of cultivation.
vii. Constraints if any in the continued application of these improved technologies-No

6. LINKAGES

6.1. Functional linkage with different organizations

Sl.No.	Name of organization	Nature of Linkage (pl. specify)
1	**Dy. Director of Agriculture.**	Most of the Organizations are members of Scientific Advisory Committee (SAC) of KVK and have linkage with different activities of KVK *viz.,* Training Programme, Khedut Sibir, Farmers day, Farmers fair, Film Show, Extension functionery-trainings and Soil health card etc.
2	**Dy. Director of Agril. Extension (FTC)**	
3	**Dy. Director of Horticulture**	
4	**Dy. Director of Animal Husbandry**	
5	**District Agriculture officer**	
6	**JillaUdhyong Kendra**	
7	**NHRDF**	
8	**Doordarshan Kendra**	
9	**All India Radio**	
10	**District Rural Development Agency(DRDA)**	
11	**ATMA**	
12	**District Watershed Development Agency (DWDA)**	
13	**GGRC**	
14	**Reliance foundation**	
15	GSFC, **GNFC**	
16	**IFFCCO**	
17	**KRIBHCO**	
18	**ANANDI NGO**	
19	**Agakhan Rural Support**	

6.2. Details of linkage with ATMA

S. No.	Programme	Nature of linkage
1	Field Visit	Field visit for current field problems
2	Training	Training at village

6.3. Give details of programmes under National Horticultural Mission

S. No.	Programme	Nature of linkage
1	Training	Training at farmers field with staff of Horticulture department

6.4. Nature of linkage with National Fisheries Development Board :- Nil

6.5. Additional Activities planned including sponsored projects (NARI / DAESI / DAMU / DFI / PKVY / Skill Trainings / TSP / KKA /Seed Hub on Pulses, etc.) schemes during 2021, if involved:- Nil

6.6. Activities planned in respect of FPOs / FPCs :- Nil

6.7. Activities planned in respect of developing Integrated Farming System (IFS) Models on farmers' fields during 2023

S. No	Name of the village	No. of IFS models to be identified / developed	Major components of IFS model
1	Palas, Saraya & Thorala	12	Horticulture, Animal , Pulses & Cereals product

7. Convergence with other agencies & line departments in the district: Nil

8. Innovator Farmer's Meet 2023

Sl. No.	Particulars	Details	Expected No. of participants
1	Farm innovators meet planned – For Date palm	November	50

9. Utilization of hostel facilities:- Farmers and extension workers will stayed in hostel if programme will 2 or more days.

10. Details of online activities planned (If any)

S. No.	Type of activities	No. of programmes	Mode of implementation (Video conferencing / Audio Conferencing / Facebook Live / YouTube Live, etc)	No. of participants to be covered
1	Farmers trainings	5	Video conferencing / Audio Conferencing / Facebook Live / YouTube Live	125
2	Farmers scientist's interaction programme	-		-
3	Farmers seminars	-		-
4	Expert lectures	6		140
5	Any other (Pl. specify)	-		

11. Details of collaborative applied research projects planned if any :- Nil

Annexure - I

Training Programme

I) Farmers & Farm women (On Campus)

Date	Clientele	Title Of The Training Programme	Duration In Days	No. Of Participants			Number Of SC/ST			Grand Total
				M	F	T	M	F	T	
Crop Production										
January	PF/FW	Production and processing of pearl millet	1	22	00	22	03	00	03	**25**
February	PF	Importance and use of bio fertilisers	1	22	00	22	03	00	03	**25**
March	PF	Importance and criteria for natural farming	1	22	00	22	03	00	03	**25**
April	PF	Production technology of different millet crops.	1	22	00	22	03	00	03	**25**
July	PF	Integrated nutrient management in *kharif* crops	1	22	00	22	03	00	03	**25**
September	PF	Preparation of *Jivamrut* and its role in crop production	1	22	00	22	03	00	03	**25**
Horticulture										
January	PF/FW	Seed production technology in vegetable crops	1	20	04	24	00	01	01	**25**
August	PF/FW	Raising of vegetable nursery	1	20	04	24	00	01	01	**25**
Soil Health										
April	PF	Importance of soil analysis.	1	22	00	22	03	00	30	**25**
Home Science :										
August	FW	Preparation of dishes from différent millets.	1	20	04	24	00	01	01	**25**
Plant Protection										
January	PF	Insect pest & disease management in *rabi* crops.	1	22	00	22	03	00	03	**25**
February	PF	Insect pest management in natural farming	1	22	00	22	03	00	03	**25**
May	PF	Seed treatment for pest and disease management in *kharif* crops.	1	22	00	22	03	00	03	**25**
July	PF	Practical on preparration of different component of Natural farming *viz*;Bramastra,Agniastra and Nimastra for insect management .	1	22	00	22	03	00	03	**25**
August	PF	Pest & disease Management in *kharif* crops.	1	22	00	22	03	00	03	**25**

II) Extension personnel (On Campus)

Date	Clientele	Title Of The Training Programme	Duration In Days	No. Of Participants			Number Of SC/ST			Grand Total
				M	F	T	M	F	T	
June	EF	Integrated pest management in *kharif* crop	1	34	03	37	03	00	03	**40**
October	EF	New recommendation and package of practice of rabi crops	1	34	03	37	03	00	03	**40**

I) Farmers & Farm women (Off Campus)

Date	Clientele	Title Of The Training Programme	Duration In Days	Number Of Participants			Number Of SC/ST			Grand Total
				M	F	T	M	F	T	
Crop Production										
January	PF	Importance and criteria for natural farming	1	22	01	23	02	00	02	**25**
April	PF	Benefits of *jivamrut* and *ghanjivamrut*	1	22	00	22	03	00	03	**25**
June	PF	Integrated nutrient management in *kharif* crops	1	21	01	22	03	00	03	**25**
July	PF	Importance and criteria for natural farming	1	21	01	22	03	00	03	**25**
October	PF	Integrated nutrient management in *rabi* crops	1	21	01	22	03	00	03	**25**
November	PF	Weed management in *rabi* crops	1	21	01	22	03	00	03	**25**
December	PF	Irrigation management in *rabi* crops	1	21	01	22	03	00	03	**25**
Horticulture										
August	FW	Raising of vegetable nursery	1	00	23	23	00	02	02	**25**
January	PF	Scientific cultivation of spices crops.	1	21	2	22	02	01	03	**25**
Soil Health										
February	PF/FW	Importance of soil health card and soil & water testing	1	22	1	23	2	00	2	**25**
May	PF	Importance of soil analysis.	1	21	01	22	03	00	03	**25**
July	PF	Information regarding Bio-fertilizer application in different crops.	1	22	00	22	03	00	03	**25**
August	PF	Plant nutrients and its management	1	22	00	22	03	00	03	**25**
December	PF	Role of different macro and micro nutrient	1	22	00	22	03	00	03	**25**
Plan Protection										
January	PF	Insect pest & disease management in *rabi* crops.	1	22	02	24	01	00	01	**25**
February	PF	Store grain pest and their	1	21	00	21	04	00	04	**25**

		management and precautions								
March	PF	Seed treatment for pest management in *kharif* crops.	1	23	00	23	02	00	02	**25**
April	PF	Integrated pest & disease management in *kharif* crops.	1	20	03	23	02	00	02	**25**
May	PF	Pest and disease management through different component of Natural farming e.g. Agniastra & Nimastra.	1	22	01	23	02	00	02	**25**
July	PF	Insect pest management in natural farming	1	22	00	22	03	00	03	**25**
August	PF	Role of predator and parasite in pest management.	1	22	00	22	03	00	03	**25**
September	PF	Integrated insect-pest & disease management in horticultural crops	1	25	00	25	00	00	00	**25**
October	PF	Pest & disease management in vegetable and horticulture crops	1	23	00	23	02	00	02	**25**

II) Sponsored programmes

Discipline	**Sponsoring Agency**	**Clientele**	**Title Of The Training Programme**	**No. Of Course**	**No. Of Participants**			**Number Of SC/ST**			**G. Total**
					M	**F**	**T**	**M**	**F**	**T**	
Sponsored Training Programme											
Crop Production	ATMA-Morbi	PF	Management of macro and micro nutrient in natural farming	1	23	00	23	02	00	02	**25**
Plant Protection	ATMA-Staff	PF	Different IPM modules for relevant crops.	1	24	00	24	01	00	01	**25**
Plant Protection	DAO-Morbi	PF	Insect & disease management through seed treatment.	1	25	00	25	00	00	00	**25**
Horticulture	ATMA-Morbi	PF	Scientific cultivation of spices crops.	1	21	00	21	04	00	04	**25**
Horticulture	Reliance Foundation	PF	Improved varieties and their characteristic of vegetable crops developed by SAUs	1	24	00	24	01	00	01	**25**
Crop Production	ATMA-Morbi	PF	Different criteria for natural farming	1	22	01	23	02	00	02	**25**
Crop Production	ATMA-Morbi	PF	Importance and use of bio fertilizer	1	22	00	22	03	00	03	**25**
			Total	**7**	**161**	**1**	**162**	**13**	**0**	**13**	**175**
Sponsored Research Programme – Nil											
Any Special Programmes – Nil											

Annexure - II

Details of Budget Estimate (2023-24) based on proposed action plan

No.	Particulars	BE 2022-23 proposed (Rs.)(Lac)
1.1	**Recurring Contingencies**	
1.1.1	**Pay & Allowances**	**92.4**
1.1.2	**Traveling allowances**	**1.1**
1.1.3	**Contingencies**	**20.3**
A	Stationery, telephone, postage and other expenditure on office running, publication of newsletter and library maintenance (purchase of news paper& magazines)	8.0
B	Pol, repair of vehicles, tractor and equipments	2.0
C	Meals/refreshment for trainees (ceiling upto rs.40/day/trainee be maintained)	3.0
D	Training material (posters, charts, demonstration material including chemicals etc. Required for conducting the training)	1.5
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	1.5
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	1.5
G	Training of extension functionaries	1.0
H	Maintenance of buildings	0.6
I	Establishment of soil, plant & water testing laboratory	1.0
J	Library	0.2
1.1	**TOTAL Recurring Contingencies**	**113.8**
1.2	**Non-Recurring Contingencies**	
1.2.1	**Works**	50.0
1.2.2	**Equipments Including SWTL & Furniture**	3.0
1.2.3	**Vehicle** (Four wheeler/Two wheeler, please specify)	1.1
1.2.4	**Library** (Purchase of assets like books & journals)	0.2
1.2	**TOTAL Non-Recurring Contingencies**	**54.3**
1.3	**REVOLVING FUND**	**-**
1.4	**GRAND TOTAL**	**168.1**